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SCIENTIFIC NOTES AND NEWS.

LORD PLAYFAIR.

BARON LYON PLAYFAIR, the eminent chemist and statesman, died in London on May 29th. We take the following facts regarding his life from the *New York Evening Post*: He was a son of George Playfair, Chief Inspector-General of Bengal Hospitals, and was born at Meerut, Bengal, on May 21, 1819. He was educated at the University of St. Andrew's, and at an early age took an especial interest in chemistry. After studying the science at Glasgow and Gies-sen he was appointed, in 1843, professor of chemistry in the Royal Institution at Manchester. In the following year he was appointed on the commission constituted to examine into the sanitary condition of the large towns and populous districts of England. He was then appointed chemist to the Museum of Practical Geology. In the great exhibitions of 1851 and 1872 he was Special Commissioner in charge of the Department of Juries. He was chairman of the finance committee of the English Commission at the French exhibition of 1878. Meanwhile, in 1856, he became Inspector-General of Government Museums and Schools of Science, and in the following year was elected President of the Chemical Society of London. He became professor of chemistry, in 1858, at Edinburgh University. In conjunction with Sir Henry de la Beche, he examined, at the desire of the Admiralty, into the suitability of the coals of the United Kingdom for the purposes of the navy, and into the causes of accidents in mines. He was one of the Royal Commissioners to inquire into the cattle plague on its appearance in England, and a member of the commission which laid the basis for the withdrawal of legislative restrictions on sea fisheries. In 1874 he was President of the Civil Service Inquiry Commission, which produced an elaborate scheme for the reorganization of the British civil service. He sat in Parliament for the Universities of Edinburgh and St. Andrew's from 1868 to 1885, and for Leeds from 1885 to 1892, at which time he was raised to the peerage of the United Kingdom. In the Liberal Ministry of 1873 and 1874 he was Post-master-General. In Mr. Gladstone's government of 1886 he was Vice-President of the

Council. He was a member of many learned societies, and held many British and foreign orders.

THE IMPERIAL INSTITUTE.

THE annual meeting of the governing body of the Imperial Institute, London, was held on May 4th. The Prince of Wales (President of the Institute) presided, and expressed his satisfaction, according to the report in the *London Times*, at the steady progress made in various branches of important work of the Institute, as detailed in the report, and with the reduction of expenditure which had been the result of careful revision of the executive of various branches of the Institute, and incidental expenses. He expressed the hope that members of the governing body would use their best endeavors to promote the proper recognition of the work which the Institute was carrying out by inducing people in different parts of the United Kingdom to become members.

The annual meeting of the Institute was afterwards held under the chairmanship of Lord Herschell. In the annual report, which was read to the meeting by the Hon. Secretary, it was shown, in considerable detail, that the fifth year of the Institute's operations had witnessed a steady expansion, as well as a distinct advance, in their establishment upon a firm footing. It was reported that a public commercial news-room, very completely equipped with commercial and official publications, had been opened in connection with the collections of the Institute, and that steps were in contemplation for establishing a City branch of the information department of the Institute, to which the public news-room would probably be transferred. The number of public lectures delivered during the winter season had been considerably increased. The exercise of rigid economy, and a careful revision of the details of administration, etc., were reported to have resulted in reductions of expenditure in almost every direction. There had been a considerable falling-off in the number of Fellows during the year, and there had been a somewhat heavy outlay in connection with the Yachting and Fisheries Exhibition. On the other hand, the exhibition of Jubilee presents had furnished a substantial addition to

the year's revenue, besides providing a large contribution to the Prince of Wales's Hospital Fund. The balance sheet presented by the auditors showed a debit balance of £365. Lord Herschell gave an interesting account of the important work which is now being carried out in the Intelligence and Scientific and Technical Departments, and brought before the meeting a number of weighty illustrations of the high appreciation of this work by mercantile houses, manufacturers and colonial authorities. He emphasized the fact that this work was in great part accomplished through the agency of Fellows' subscriptions, and urged that Fellows of the Institute should demonstrate their sympathy with the work by endeavoring to obtain additions to their number. The subject of the criticisms published on the engagement of foreign bands was also dealt with by him, and he concluded an eloquent address by a reference to the fact, now much lost sight of, that the Imperial Institute was founded, erected and established as a monument commemorative of the Queen's Jubilee of 1887.

TESTS OF SEEDS BY THE U. S. DEPARTMENT OF AGRICULTURE.

THE Department of Agriculture has issued a circular which gives a table fixing the standard for purity (freedom from weed seeds) and germination of high-grade seeds and the limit below which seeds are unfit for sale. The circular further says:

The Act of Congress making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1899, under the heading 'Botanical Investigations and Experiments, Division of Botany,' contains the following clause:

The Secretary of Agriculture is hereby authorized to purchase samples of seeds in open market, test the same, and when found not up to standard he may, at his discretion, publish the results of these tests, together with the names of the seedmen by whom the seeds were sold.

The purchase of seeds for the tests authorized under this act will begin July 1, 1898.

The seed must be true to name, and practically free from smut, bunt, ergot, insects or their eggs or larvæ, and the seeds of dodder, wild mustard, wild flax, Russian thistle, Can-

ada thistle (*Carduus arvensis*), cockle, chess (*Bromus secalinus*), quack grass, penny cress, wild oak and the bulblets of wild onion. It must not contain more than one per cent. of other weed seeds.

It will be the aim of the Department of Agriculture in carrying out this law to put a stop to the sale of seed so poor as to make probable a positive injury and loss to the purchaser, thus giving protection on the one hand to the farmer and gardener and on the other hand to the honorable seedsman and seed dealer.

The purchase and testing of the seeds will be carried on under the supervision of the Botanist of the Department, Frederick V. Coville, and in the immediate charge of Gilbert H. Hicks, Assistant.

Seeds showing a test as high as these standards are considered of high grade. Seeds falling five points below the standard in purity, or containing an appreciable amount of the prohibited seeds or more than one per cent. of other weed seeds, or falling twenty points below the maximum percentage in germination are, in general, considered unfit for sale as first class seed, and if sold as such the results of the tests are liable to publication. Furthermore, if seeds sold as of lower grade are found to contain a large amount of weed seeds or show a very low germination, so as to render them practically valueless or seriously injurious, the results of these tests also are liable to publication. It is recognized, however, that in certain cases, as in highly bred varieties or growth and harvest under unfavorable seasonal conditions, seeds may show a germination lower than the normal, and due allowance will be made.

GENERAL.

THE Committee on Education of the Massachusetts House of Representatives has reported a bill appropriating \$2,500 in aid of the Boston meeting of the American Association for the Advancement of Science.

MR. GIFFORD PINCHOT has been appointed Chief of the Division of Forestry, Department of Agriculture, to fill the vacancy caused by the resignation of Mr. B. E. Fernow to accept the Directorship of the New York State College of Forestry, Cornell University.

PROFESSOR IRA REMSEN has been elected an honorary member of the Pharmaceutical Society of Great Britain.

DR. W. H. DALL has been elected a Foreign Correspondent of the British Geological Society.

PROFESSOR ROBERT KOCH has returned to Berlin after an absence of a year and a-half, which he has devoted to the study of infectious disease in Africa and India.

PROFESSOR GEORGE RÖRIG, of Königsberg, has been appointed head of the newly established division for agriculture and forestry under the Imperial Bureau of Health, Berlin.

DR. JOHN MURRAY, F.R.S., has been made a K.C.B. as one of Queen Victoria's birthday honors.

THE Royal Academy of Belgium has elected Professor Max Müller to fill the vacant place among the foreign members in the Class of Letters and Moral and Political Sciences.

CAMBRIDGE UNIVERSITY will confer the honorary LL.D. on Sir William Turner, F.R.S., and Mr. F. C. Penrose, F.R.S. The honorary M.A. will be conferred on Mr. Arthur Willey, Balfour student.

MR. C. E. EMERY, the well-known consulting engineer, formerly of the United States Coast and Geodetic Survey, died in Brooklyn, June 2d, at the age of sixty years. He was a Past President of the Society of Electrical Engineers and had received the Telford medal from the British Society of Civil Engineers.

WE regret to record the following deaths among men of science abroad: M. Souillart, professor of astronomy in the University of Lille, correspondent to the Paris Academy for the Section of Astronomy and known especially for his researches on the satellites of Jupiter; Mr. Edward Wilson, curator of the Bristol Museum and the author of valuable papers in geology, on May 21st, at the age of forty-nine years; Mr. W. C. Lucy, an English geologist, on May 11th, at the age of seventy-five years; Dr. C. Herbert Hurst, demonstrator in zoology in the Royal College of Science, Dublin, and the author of valuable contributions to zoology, and Dr. Gustav Reichsritter von Wiedersperg, a prominent Austrian sanitarian, aged fifty-nine.

At the annual meeting of the National Geographic Society held on May 20th Messrs. Alexander Graham Bell, Henry Gannett, John Hyde, W J McGee, F. H. Newell and A. W. Greely were re-elected members of the Board of Managers. Several amendments were made to the By-laws, one of which reduces the number of Vice-Presidents from six to one. At the meeting of the Board of Managers on June 3d the following officers were elected: President, Alexander Graham Bell; Vice-President, W J McGee; Recording Secretary, F. H. Newell; Corresponding Secretary, Eliza Ruhamah Scidmore; Treasurer, Henry Gannett. The Society has arranged for several summer meetings. A field meeting will take place at Cabin John Bridge, and an indoor meeting in Washington, in connection with the annual meeting of the National Educational Association, which is this year to be held at the National capital. A meeting in Boston has been arranged also, to be held in connection with the meeting of the American Association for the Advancement of Science and the Geological Society of America. The date chosen is Thursday, August 25th.

THE Schweizerische naturforschende Gesellschaft will hold its 81st annual meeting at Berne on July 31st, August 1st, 2d and 3d, under the presidency of Professor Th. Studer. The meeting opens with an assembly on the evening of July 31st, followed by a general meeting and various entertainments on August 1st. August 3d is devoted to an excursion to Grindelwald. The scientific work of the sections is confined to August 2d, and in conjunction with them will meet the Swiss Geological, Botanical and Zoological Societies. Of the thirteen sections six are devoted to physiological, medical and agricultural sciences, which are entirely ignored by the American Association. American men of science would doubtless be repaid by arranging to be present at Berne on the first of August. They can obtain further information from the General Secretary, Professor J. H. Graf, Wyler Str., 10, Berne.

MR. BORCHGREVINK expects to leave London in July for explorations in South Victoria Land on a new ship, 'The Southern Cross,' designed by the builder of the 'Fram.'

COLUMBIA UNIVERSITY has sent a zoological expedition consisting of Mr. N. B. Harrington, fellow in zoology, and Mr. Reid Hunt, tutor in physiology, to the Guinea coast, Africa, to study the developmental stages of the Crossopterygian fishes. These are now looked upon as representing more nearly than any other recent fish-like animals the ancestors of the terrestrial vertebrates, and the investigation of their development is expected to throw light on many long disputed problems relating to the origin of the higher animals. The expedition has been made possible by a gift of \$1,800 from Mr. Charles H. Senf.

THE Yale zoological expedition to Bermuda under the direction of Professor Verrill has recently returned with a large and valuable collection of specimens, illustrating mainly the marine fauna of the island.

PROFESSOR C. L. BRISTOL has left for Bermuda in company with Mr. J. Watson Vail. Professor Bristol will install the laboratory of the New York University, which will be well equipped for the special study of embryology by the time of the arrival of his students, who will sail on June 16th. On this, the second summer expedition, Professor Bristol and his students purpose making a further reconnaissance of the island, with a view to erecting a permanent station. In addition to other researches they will make experiments in submarine photography.

THE annual conference of State and Provincial Boards of Health of North America will meet at Detroit on August 11th and 12th.

THE Bucks County Natural History Association, Pennsylvania, held its annual meeting on June 2d. An address upon the work of the Association was made by Mr. Nathaniel Richardson, the President, and the program included a paper on petroleum by Professor Hart, of Lafayette College.

THE fifth International Congress of Hydrology, Climatology and Geology will be opened at Liège on September 25th next.

THE bill appropriating \$10,000 for the extermination of the brown-tail moth in Massachusetts has been passed, with the important

exception that it was amended by striking out the appropriation of \$10,000 and providing that all expense connected with the work should come out of the appropriation for exterminating the gypsy moth. The Board of Agriculture is given charge of the work.

THE United States Civil Service Commission announces that on June 27, 1898, examination may be taken for the grade of Nautical Expert, Navy Department, Hydrographic Office. There is at present a vacancy in this grade at the Hydrographic Office at Washington at a salary of \$1,000 per annum and another at the branch Hydrographic Office, New York City at a salary of \$1,400, which it is desired to fill. The examination will consist of the following named subjects, which will be weighted as follows:

Letter-writing,	1
Pure mathematics,.....	3
Physical geography,.....	2
Nautical definitions,.....	1
Navigation,	2
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	10

THE first meeting of the State Trustees of Scenic and Historic Places and Objects, under their new corporate name of 'The Society for the Preservation of Scenic and Historic Places and Objects,' was held in New York on May 31st. The following governing board of trustees was elected; Andrew H. Green, Frederick W. Devoe, Samuel Parsons, Jr., Henry E. Howland, Walter S. Logan, Edward P. Hatch and Edward Hagaman Hall, of New York, and Charles S. Francis, of Troy. Mr. Green was elected President, Mr. Francis Vice-President, Mr. Hatch Treasurer, and Mr. Hall Secretary.

THE Council of the British Medical Association are prepared to receive applications for grants in aid of researches for the advancement of medicine and the allied sciences. Applications must be made to the General Secretary, at the office of the Association, 429 Strand, W. C., and must include details of a precise character and objects of the research which is proposed. The Council are also prepared to receive application for one of the three Research Scholarships, which is of the value of £150 per annum, tenable for one year, and subject to renewal by the Council for another year.

THE managers of the Pennsylvania Hospital in Philadelphia have taken steps to add to the institution a clinical laboratory, the funds being provided by a bequest of \$50,000 by the late Josephine M. Ayer, of Philadelphia, supplemented by a gift of \$25,000 from her son, Fred. F. Ayer.

UNIVERSITY AND EDUCATIONAL NEWS.

THE New York University Medical College and the Bellevue Medical College will be consolidated under the name 'The University and the Bellevue Hospital Medical College.' It will be remembered that the negotiations for this union failed a year ago at the last moment, but the resignation of a portion of the faculty of the New York University Medical College to form a new school under the auspices of Cornell University has now led to the consolidation.

THE Trustees of Colby University have made a contract for the construction of a chemical laboratory to be built of stone and brick and to cost \$30,000.

THE will of the late Felix R. Bonnet, of Pittsburgh, Pa., provides that, upon the death of his widow, \$300,000 shall go to the Western Pennsylvania University for the endowment of scholarships.

PRESIDENT F. P. GRAVES, of the University of Wyoming, has been elected President of the University of Washington.

THE following promotions and appointments have been made by the corporation of Yale University: Assistant Professor Sneath was promoted to a full professorship of philosophy in the College; Dr. Philip E. Browning, promoted from an instructorship to an assistant professorship in chemistry; Dr. E. W. Scripture was given the title of director of the psychological laboratory; E. M. Weier, B.A., 1895, was appointed assistant in the same laboratory; George Grant McCurdy, B.A., Harvard, 1893, was appointed to a new instructorship in prehistoric anthropology in the Graduate School; H. E. Gregory, B.A., 1896, instructor in physical geography.

THE University of Dublin has elected to the chair of mental and moral philosophy Mr. Swift

Paine Johnston, who is said to be an American citizen.

MR. H. YALE OLDHAM has been appointed reader in geography in Cambridge University.

DISCUSSION AND CORRESPONDENCE.

'A PRECISE CRITERION OF SPECIES.'

TO THE EDITOR OF SCIENCE: In the issue of this JOURNAL for May 20, 1898 (N. S. vii., No. 177) is a joint contribution, under the above title, by Messrs. C. B. Davenport and J. W. Blankinship, in which Mr. Davenport, under the subheading 'A. The General Method,' says: "What is needed is a method of precisely defining the degree of isolation and the degree of divergence necessary for distinct species." To establish such a method, and to define 'the degree of isolation and the degree of divergence necessary for distinct species,' is the grand task here undertaken—and accomplished, to the satisfaction apparently of, at least, the author of the paper; and his diagrams of curves and his mathematical formulæ are very interesting and very suggestive, so far as they go. But the conclusions based thereon, and the methods by which they are reached, display an extraordinary lack of practical experience with the actual conditions of the problem in hand. No one duly appreciating the conditions to be met would ever undertake to formulate a 'method' on such imperfect data as he has employed for the 'Determination of the Line between Species and Varieties,' since their utter insufficiency is obvious, one would suppose, to any one at all experienced in this field of research.

"The question arises," says Mr. Davenport, "whether it would not be necessary to draw curves for many characters." He answers: "Practically it will not be necessary, for confluent species are usually separated chiefly by one most distinctive character." Unfortunately, this is not the case, but by a combination of slight differences along a number of distinct lines. But suppose it were as Mr. Davenport assumes, and the most distinctive character was one of color, involving not only the prevailing tint, but coincidently variations in